

REMARKS

The present application has been reviewed in light of the Office Action mailed April 27, 2009. Claims 1-5 and 7-13 are currently pending in the application. Claim 6 has been cancelled and one or more pertinent features of this claim have been incorporated into independent claims 1, 12 and 13. Claims 1, 2, 4, 7, 11, 12 and 14 have been amended herein, with claims 1, 12 and 13 being recited in independent form. No new matter is believed to be introduced by the present amendment. In view of the amendments above and the remarks to follow, allowance of this application is respectfully requested.

Claim Objections

Claims 1-2, 4, 6-7, 11-12 and 14 were objected to for minor informalities. More particularly, in the Office Action it was asserted that in claims 1-2, 4, 6, 11-12 and 14 the term "insulative housing" does not specify whether the housing should be electrically insulative or thermally insulative, or generally insulative from the environment. Applicants have amended claims 1-2, 4, 11-12 and 14 in a manner which is believed to overcome the objection. More particularly, claims 1-2, 4, 11-12 and 14 now recite "electrically insulative housing." With respect to claim 6, as noted above, this claim has been cancelled and, as a result thereof, the objection to this claim is rendered moot and should be withdrawn. With respect to claim 7, according to the Office Action, there is insufficient antecedent basis for the term "electrically conductive sealing surface." Applicants have amended claim 7 in a manner which is believed to overcome the objection. More particularly, claim 7 now recites "electrically conductive sealing plate."

In view of the foregoing amendments and/or remarks, withdrawal of the objection to claims 1-2, 4, 6, 7, 11-12 and 14 is respectfully requested.

Claim Rejections under 35 U.S.C. §112

Claim 14 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Applicants have amended claim 14 in a manner which is believed will overcome the rejection of claim 14 under 35 U.S.C. §112. More particularly, claim 14 now recites “an electrically insulative housing.”

In view of the foregoing amendment, withdrawal of the rejection to claim 14 is respectfully requested.

Double Patenting

Claim 6 was rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of commonly-owned prior U.S. Patent No. 7,147,638 to Chapman et al. As previously noted, claim 6 has been cancelled and, as a result thereof, the double patenting rejection is rendered moot and should be withdrawn.

Claims 1-5 and 7-14 were rejected on the ground of the non-statutory obviousness-type double patenting as being unpatentable over claims 1-10 and 11 of U.S. Patent No. 7,147,638 to Chapman et al. Accompanied herewith is a terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d). Accordingly, the non-statutory obviousness-type double patenting rejection is overcome and should be withdrawn.

Claim Rejections under 35 U.S.C. §102(b)

Claims 1-3, 8-9, 11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,151,102 to Kamiyama et al. (“Kamiyama”). Applicants respectfully submit that Kamiyama does not anticipate amended independent claims 1, 12 and 13 for at least the following reasons.

More particularly, as conceded by the Examiner on page 12 of the present Office Action (see rejection with respect to claim 6), Kamiyama does not expressly disclose a thermally conductive, electrically non-conductive material of at least one jaw member that includes projections which extend laterally from an outer periphery of the insulative housing. Accordingly, and as noted above, Applicants have cancelled claim 6 and incorporated the pertinent claim limitations of claim 6 into claim 1.

More particularly, claim 1, as amended herein, recites an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom.”

In view of the foregoing, it is Applicants’ position that Kamiyama does not disclose all the claim limitations of claim 1. Accordingly, the rejection to claim 1 as being anticipated by Kamiyama under 35 U.S.C. 102(b) is overcome and should be withdrawn.

Since claims 2-3, 8-9 and 11 depend from claim 1 and contain all the limitations of claim 1, for reasons analogous to those presented above regarding the patentability of claim 1, Applicants respectfully submit that each of claims 2-3, 8-9 and 11 is also patentable Kamiyama.

Claim 12 has been amended in a manner similar to claim 1, more particularly, claim 12 recites an electrode sealing assembly designed for use with an electrosurgical instrument for

sealing tissue including, *inter-alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom.”

Thus, for reasons analogous to those presented above regarding the patentability of claim 1, Applicants respectfully submit that claim 12 is also patentable over the art of record, namely, Kamiyama, and the rejection to claim 12 as being anticipated by Kamiyama under 35 U.S.C. 102(b) is overcome and should be withdrawn.

Claim 13 has been amended in a manner similar to claims 1 and 12, more particularly, claim 13 recites an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom.”

Thus, for reasons analogous to those presented above regarding the patentability of claims 1 and 12, Applicants respectfully submit that claim 13 is also patentable over the art of record, namely, Kamiyama, and the rejection to claim 13 as being anticipated by Kamiyama under 35 U.S.C. 102(b) is overcome and should be withdrawn.

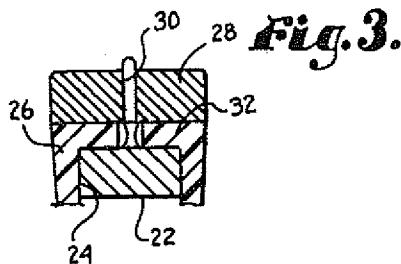
Since claim 14 depends from claim 13 and contains all the limitations of claim 13, for reasons analogous to those presented above regarding the patentability of claim 13, Applicants respectfully submit that claim 14 is also patentable over Kamiyama.

Claims 13 and 14 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,010,516 to Hulka (“Hulka”). Applicants respectfully submit that Hulka does not anticipate amended independent claim 13 for at least the following reasons.

As noted above, claim 13 recites an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a “thermally

conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom.”

Conversely, Hulka relates generally to a bipolar electrosurgical instrument that incorporates bipolar electrodes at each clamp member such that electrocoaptation can be achieved. With this purpose in mind, Hulka discloses that an electrosurgical instrument 10 includes first and second clamp members 12, a current-source 14 for applying and regulating a voltage between the clamp members, and a mechanism 16 for indicating when coaptation of the tissue is achieved (See col. 3, lines 1-5 of Hulka). According to Hulka, each clamp member 12 includes a metal clamping surface 22, which defines a periphery 24, an insulative coating 26 (which the Examiner alleges is analogous to the thermally conductive, electrically non-conductive material of Applicants' claims) surrounding the periphery of each metal clamping surface 22, and a clamping support 28, as shown in FIG. 3 (reproduced below). As disclosed in Hulka, the support 28 is fabricated of a sufficient thickness to withstand the stresses encountered in compressing and crushing tissue. Hulka does not disclose that the periphery 24 and/or insulative coating 26 include projections that extend laterally therefrom.



Consequently, Hulka does not disclose an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom,” as required by claim 13.

Claim Rejections under 35 U.S.C. §103(a)

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiyama in view of U.S. Patent Publication No. 2003/0216733 to McClurken et al. (“McClurken”). Applicants respectfully submit that when properly combined, Kamiyama in view of McClurken does not disclose, teach or even suggest all the claim limitations of amended independent claim 1 for at least the following reasons.

The Examiner relies on McClurken for teaching an insulative housing on at least one jaw member that is made from a material selected from the group consisting of: nylon, syndiotactic-polystyrene, and so on.

McClurken relates to electrosurgical devices, systems and methods for use upon tissues of a human body during surgery, particularly open surgery and minimally invasive surgery such as laparoscopic surgery. McClurken does not cure the deficiencies of Kamiyama with respect to claim 1 in that McClurken does not disclose, teach or even readily suggest an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom,” as required by claim 1.

Since claim 4 depends from claim 1 and contains all of the limitations of claim 1, for reasons analogous to those presented above regarding the patentability of claim 1, Applicants respectfully submit that claim 4 is also patentable.

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kamiyama in view of U.S. Patent No. 5,810,764 et al. to Eggers (“Eggers”). Applicants respectfully submit that when properly combined, Kamiyama in view of Eggers does not disclose, teach or suggest

all the claim limitations of amended independent claim 1 and dependent claim 5 for at least the following reasons.

The Examiner relies on Eggers for teaching an electrode sealing assembly wherein a thermally conductive, electrically non-conductive material of at least one jaw member is at least one of thermally conductive and anodized aluminum.

Eggers relates generally to surgical devices and methods which employ high frequency voltage to cut and ablate tissue. Eggers does not cure the deficiencies of Kamiyama with respect to claim 1 in that Eggers does not disclose, teach or suggest an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom,” as required by claim 1.

Since claim 5 depends from claim 1 and contain all of the limitations of claim 1, for reasons analogous to those presented above regarding the patentability of claim 1, Applicants respectfully submit that claim 5 is also patentable.

Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiyama in view of McClurken and further in view of U.S. Patent No. 6,178,628 to Clemens et al. (“Clemens”). Applicants respectfully submit that when properly combined, Kamiyama in view of McClurken and/or Clemens does not render claim 6 unpatentable for at least the following reasons.

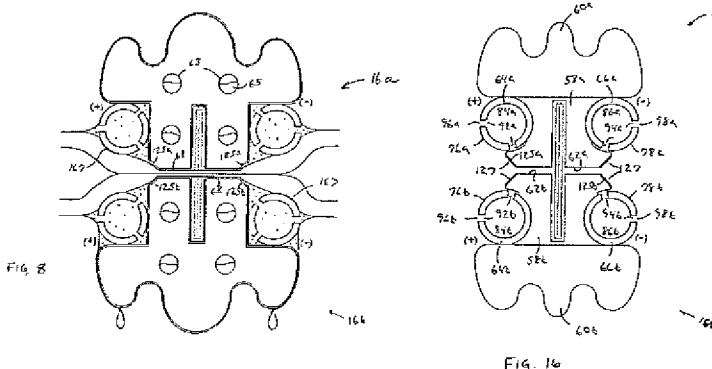
As previously noted, claim 6 has been cancelled and the limitations of claim 6 have been incorporated into independent claim 1. Thus, the rejection to claim 6 as being obvious over Kamiyama in view of McClurken in further view of Clemens under 103(a) is rendered moot and

should be withdrawn. The Examiner's rejection to the substantive subject matter of claim 6 will thus be discussed with reference to claim 1.

As noted above, claim 1 recites an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a "thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom."

The Examiner alleges that combining the teaching of McClurken with Clemens renders claim 1 obvious. Applicants respectfully disagree with the aforementioned allegation of the Examiner for at least the following reasons.

McClurken discloses that in certain applications, it may be necessary to further increase the thermal conductivity of support members 58a, 58b and base portions 60a, 60b to better function as heat sinks to remove heat transferred to surfaces 62a, 62b from tissue there between (see FIG. 16 below, for example). With this purpose in mind, McClurken discloses that in alternative embodiments, such as, for example, the embodiment shown in FIG. 8 (reproduced below), jaws 16a, 16b include an electrically insulative, thin coating 68 that provides grasping surfaces 62a, 62b and which overlies support members 58a, 58b (which the Examiner alleges is analogous to the thermally conductive, electrically non-conductive material of at least one jaw member of Applicants' claims) and base portions 60a, 60b that includes a material having a relatively higher thermal conductivity than the coating 68. According to McClurken, the insulative coating 68 may include a polymer coating, e.g., fluorinated polymer, polytetrafluoroethylene (PTFE), applied over an underlying metal.



Clemens relates to a heat sink having a reservoir of thermal binder which allows the heat sink to be secured to a device package prior to or at the same time the device package is secured to the surface mount substrate, thereby simplifying the assembly process while providing an efficient thermal interface between the heat sink and the heat generating device package, e.g., printed circuit board (PCB). Clemens provides a method and apparatus that allows a heat sink, which will ultimately be in direct thermal contact with a surface mount heat generating electronic device package, to be placed on the substrate in the surface mount assembly process before the device packages are secured to the substrate, thereby allowing for the device packages and any required heat sinks to be placed and secured to the surface mount PCB in a unified operation instead of in numerous distinct sub-operations. Clemens discloses that in order to maximize the rate at which heat can be transferred through the heat sink itself, heat sinks are generally made of materials having high coefficients of thermal conduction such as aluminum, copper, and alloys thereof. According to Clemens, a typical heat sink for electrical applications functions by conducting heat away from the heat generating component and dissipating the heat into the surrounding air, "heat sinks are typically shaped to maximize surface area by incorporating fins or pins" (See col. 2, lines 9-13. Clemens further discloses that increasing the "heat sink's surface area increases the physical size of the thermal interface between the heat sink and the

surrounding atmosphere (the second thermal interface referenced above), thereby increasing the heat sink's ability to dissipate heat to the surrounding atmosphere" (See col. 2, lines 13-18).

The Examiner asserts it would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to have a thermally conductive, electrically nonconductive material of at least one jaw member include projections, or fins, which extend laterally in order to increase surface area to best dissipate heat into the surrounding atmosphere, because McClurken teaches a thermally conductive, electrically nonconductive material to behave as a heat sink in order to remove heat transferred to tissue contacting surfaces associated with the coagulation device of McClurken." Applicants respectfully disagree with the foregoing assertion of the Examiner for at least the following reasons.

It is Applicants' position that the Clemens disclosure is non-analogous art and cannot be properly combined with the McClurken reference. More particularly, according to § 2141.01(a), in determining analogous and non-analogous art, courts have found "the similarities and differences in structure of the invention to carry far greater weight" than Patent office clarification of references and the cross-references in the official search notes. In the instant case, Clemens discloses that the heat sink may be employed with or operably disposed on a substrate. More particularly, Clemens discloses that a heat dissipating assembly 10 incorporates an embodiment of an inventive heat sink 20 that includes a heat generating electronic device package 12 surface mounted to a substrate 14 with an embedded thermal plane. The substrate 14 may be a PCB or some similar generally planar surface used for surface mounting electronic devices. Clemens does not disclose that the heat sink 20 may be employed in the medical arts. In fact, even after an exhaustive search of the Clemens disclosure, Applicants were unable to find any disclosure that pertained to positioning, orienting, or disposing a heat sink on any type

of surgical device, e.g., a jaw member and/or jaw housing. While, Clemens does disclose a heat sink may be in the form of a fin or pin, Clemens does not disclose specific locations and/or positions of the heat sink with respect to surgical devices, e.g., a jaw member and/or jaw housing. It is Applicants' position that the respective heat sinks of the McClurken and Clemens disclosures are configured to mechanically cooperate with dissimilar structure, and that one of skill in the art would not be motivated to look in the "PCB art" for heat sinks configured to solve issues associated surgical devices in the "medical art."

In view of the foregoing remarks, it is Applicants' position the McClurken and Clemens references cannot be properly combined and used in support of the obviousness rejection set forth by the Examiner.

In addition to the foregoing, assuming arguendo, and the Clemens disclosure can be considered analogous art and, thus, be properly combined with the McClurken disclosure to support the Examiner's obviousness rejection, it is Applicants' position that combining the heat sink teachings of Clemens with the support members 58a, 58b of McClurken still does not render claim 1 obvious for at least the following reasons. More particularly, combining the heat sink 20 of the Clemens reference with the support members 58a, 58b of the McClurken reference provides a jaw member that includes support members 58a, 58b that may have one or more fins or pins surrounded by a nonconductive coating. Neither McClurken nor Clemens disclose, teach or suggest providing a heat sink in the form of a projection that extends laterally from a substrate, e.g., jaw member and/or jaw housing. Applicants respectfully submit that it is only with Applicants' own disclosure and the use of impermissible hindsight that the Examiner is able to arrive at the conclusion that it would have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to have a thermally conductive, electrically nonconductive

material of at least one jaw member include projections that extend laterally therefrom. As noted in § 2142 of the MPEP with respect to the legal concept of *prima facie* obviousness, “impermissible hindsight **must** (*emphasis added*) be avoided and the legal conclusion [of obviousness] must be reached on the basis of the facts gleaned from the prior art.”

In view of the foregoing remarks, it is Applicants’ position that the rejection to claim 1 as being obvious over Kamiyama in view of McClurken in further view of Clemens under 103(a) is overcome and should be withdrawn.

Claims 7 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiyama in view of commonly-owned U.S. Patent No. 6,277,117 to Tetzlaff et al. (“Tetzlaff”). Applicants respectfully submit that when properly combined, Kamiyama in view of Tetzlaff do not render claims 7-10 unpatentable for at least the following reasons.

The Examiner relies on Tetzlaff for the teaching of a stop member extending from at least one of the jaws (claim 7); and an electrode sealing assembly that is disposable (claim 10).

Tetzlaff relates to a bipolar forceps having a disposable electrode assembly for sealing, cauterizing, coagulating/desiccating and/or cutting vessels and vascular tissue. Applicants respectfully submit that Tetzlaff fails to cure failures Kamiyama with respect to claims 7 and 10 in that Tetzlaff does not disclose, teach or suggest an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom,” as required by claim 1.

Since claims 7 and 10 depend from claim 1 and contain all of the limitations of claim 1, for reasons analogous to those presented above regarding the patentability of claim 1, Applicants respectfully submit that claims 7 and 10 is also patentable.

Claim 12 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiyama in view of Tetzlaff. Applicants respectfully submit that when properly combined, Kamiyama in view of Tetzlaff do not render claim 12 unpatentable for at least the following reasons.

As noted above, claim 12 recites an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom.”

As previously discussed, the Examiner relies on Tetzlaff for the teaching of a stop member extending from at least one of the jaws. Thus, Tetzlaff fails to cure failures Kamiyama with respect to claim 12 in that Tetzlaff does not disclose, teach or even suggest an electrode sealing assembly designed for use with an electrosurgical instrument for sealing tissue including, *inter-alia*, wherein a “thermally conductive, electrically non-conductive material of at least one jaw member includes projections that extend laterally therefrom,” as required by claim 12.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration of the application and allowance of all pending claims is earnestly solicited.

Should the Examiner believe that a telephone interview may facilitate prosecution of this application, the Examiner is respectfully requested to telephone Applicants' undersigned representative at the number indicated below.

Please charge any deficiency as well as any other fee(s) that may become due under 37 C.F.R. § 1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s), to Deposit Account No. 50-5016.

Respectfully submitted,


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